WHAT IS CLAIMED IS:

1. An image sensing apparatus comprising:

an image sensing device which generates an image sensing signal by photoelectrically converting light

5 from an object;

an extraction device which extracts a predetermined frequency component from a signal component corresponding to a focus detection area in a frame sensed by said image sensing device;

10 a weighting device which weights the predetermined frequency component extracted by said extraction device;

an evaluation value calculation device which acquires a piece or pieces of information required to

15 control a focusing lens from an output from said weighting device; and

a driving device which drives the focusing lens to an in-focus point on the basis of a signal extracted by said evaluation value calculation device.

20 2. The apparatus according to claim 1, wherein a weighting factor calculated by said weighting device changes in a predetermined number of steps from a peripheral portion to a central portion of the focus detection area.

25 3. The apparatus according to claim 2, wherein the weighting factor and the predetermined number of steps can be independently set in horizontal and vertical

directions of the frame.

4.   The apparatus according to claim 1, wherein the focus detection area comprises a plurality of focus detection areas, and said weighting device performs
5   relative weighting processing between the adjacent focus detection areas.

5.   An autofocus method comprising:

an image sensing step of generating an image sensing signal by photoelectrically converting light
10   from an object;

an extraction step of extracting a predetermined frequency component from a signal component corresponding to a focus detection area in a frame sensed in the image sensing step;

15   a weighting step of weighting the predetermined frequency component extracted in the extraction step;

an evaluation value calculation step of acquiring a piece or pieces of information required to control a focusing lens from an output in the weighting step; and

20   a driving step of driving a focusing lens to an in-focus point on the basis of a signal extracted in the evaluation value calculation step.

6.   The method according to claim 5, wherein a weighting factor calculated in the weighting step
25   changes in a predetermined number of steps from a peripheral portion to a central portion of the focus detection area.

7.   The method according to claim 6, wherein the weighting factor and the predetermined number of steps can be independently set in horizontal and vertical directions of the frame.

5   8.   The method according to claim 5, wherein the focus detection area comprises a plurality of focus detection areas, and in the weighting step, relative weighting processing is performed between the adjacent focus detection areas.

10   9.   A program causing a computer to execute an autofocus method defined in claim 5.

10.   A storage medium computer-readably storing a program defined in claim 9.

11.   An image sensing apparatus comprising:

15   an image sensing device which generates an image sensing signal by photoelectrically converting light from an object;

an extraction device which extracts a predetermined frequency component from a signal

20   component corresponding to a focus detection area in a frame sensed by said image sensing device;

a weighting device which weights the predetermined frequency component extracted by said extraction device;

25   an evaluation value calculation device which acquires a piece or pieces of information required to control a focusing lens from an output from said

weighting device; and

    a driving device which drives the focusing lens to an in-focus point on the basis of a signal extracted by said evaluation value calculation device,

5   wherein said weighting device can independently set weighting factors in horizontal and vertical directions.

12.   An image sensing apparatus comprising:

    an image sensing device which generates an image

10   sensing signal by photoelectrically converting light from an object;

    an extraction device which extracts a predetermined frequency component from a signal component corresponding to a focus detection area in a

15   frame sensed by said image sensing device;

    a weighting device which weights the predetermined frequency component extracted by said extraction device;

    an evaluation value calculation device which

20   acquires a piece or pieces of information required to control a focusing lens from an output from said weighting device; and

    a driving device which drives the focusing lens to an in-focus point on the basis of a signal extracted

25   by said evaluation value calculation device,

    wherein said weighting device performs relative weighting processing between adjacent distance

measurement frames.